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<u>REMARKS</u>

Claims 1, 16, 21, and 23 are currently amended. Claim 2 is canceled. Claims 1 and 3-23 are pending in this application.

<u>Claim Rejections under 35 USC 102</u>

Claims 1, 4, 5, 7, 16-18, 21 and 23 are rejected under 35 USC 102(e) as being anticipated by Kingetsu et al. (USP 6,181,379).

Claim 1 as amended includes the following language not disclosed by Kingetsu et al.:

an image processor that white-balances the captured image and determines whether the captured image is substantially achromatic, and if so, renders each of the electrical responses as an achromatic luminance value

Kingetsu et al. does not disclose "an image processor that white-balances the captured image". Further, the Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function. Thus, claim 1 is not anticipated by Kingetsu et al.

Claims 4, 5, and 7 depend from claim 1 are not anticipated for at least the same reasons.

Claim 16 as amended includes the following language not disclosed by Kingetsu et al.:

white-balancing the plurality of chromatic intensity values;

Kingetsu et al. does not disclose "white-balancing the plurality of chromatic intensity values". Further, the Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function. Thus, claim 16 is not anticipated by Kingetsu et al.

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Claims 17 and 18 depend from claim 16 are not anticipated for at least the same reasons.

Claims 21 and 23 as amended include the following language not disclosed by Kingetsu et al.:

means for white-balancing the plurality of chromatic intensity values;

Kingetsu et al. does not disclose a "means for white-balancing the plurality of chromatic intensity values". Further, the Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function. Thus, claims 21 and 23 are not anticipated by Kingetsu et al.

Accordingly, withdrawal of the rejection of claims 1, 4, 5, 7, 16-18, 21, and 23 is respectfully requested.

Claim Rejections under 35 USC 103

Claims 2, 3 and 8 are rejected under 35 USC 103(a) as being unpatentable over Kingetsu et al. (USP 6,181,379) in view of Matsui et al. (USP 5,448,292).

Claim 2 is canceled. Because claim 1 is amended with some of the terms from now canceled claim 2, and claims 3 and 8 also depend from claim 1, in the interests of advancing prosecution, Applicant discusses the references as applied to claim 1.

Claim 1 as amended includes the following language not disclosed by Kingetsu et al. in view of Matsui et al.:

an image processor that white-balances the captured image and determines whether the captured image is substantially achromatic, and if so, renders each of the electrical responses as an achromatic luminance value

Kingetsu et al. does not disclose "an image processor that white-balances the captured image". The Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function. The Examiner combined white balancing as disclosed by Matsui et al. with Kingetsu et al. to make the rejection.

The Examiner cannot rely on impermissible hindsight afforded by the claimed

invention to combine a first reference disclosing "an image processor that white-balances the captured image" with a second reference disclosing "an image processor that .... determines whether the captured image is substantially achromatic, and if so, renders each of the electrical responses as an achromatic luminance value". MPEP Eight Edition, Revision 2, page 2100-120.

The Examiner's combination of the references does not satisfy the requirements of a *prima facie* case, because the combination of the references would render the prior art unsatisfactory for its intended purpose, the motivation to combine the references is insufficient, and the combination of the references changes the principle of operation of a reference.

First, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references would render Kingetsu et al. unsatisfactory for its intended purpose. MPEP Eight Edition, Revision 2, page 2100-131.

The intended purpose of Kingetsu et al. is to save space in the finite image memory by storing only achromatic luminance data for black and white images. Column 12, lines 1-17 of Kingetsu et al. This intended purpose is especially significant, because it is discussed at precisely the portion of Kingestu et al. that is relied on by the Examiner to disclose the claim 1 language of an image processor that "renders each of the electrical responses as an achromatic luminance value". Kingetsu et al. discloses that only brightness information is extracted from image data, if the image data is determined to be a black and white image. Column 12, lines 1-25 and column 11, lines 51-60. Kingetsu et al. explains that color images occupy much more image memory, because image data must be stored separately each color, red, green, and blue. Column 12, lines 16-25. By recording only brightness information for a black and white image, and omitting color data such as hue and chromaticity, Kingetsu et al. serves the intended purpose of saving space in the finite image memory. Column 5, lines 40-44.

Matsui et al. violates the intended purpose of Kingetsu et al. Matsui et al. discloses a white balance control device for photographing an image in which one specific color dominates, such as red or blue. Column 3, lines 13-35. Thus, in contrast with Kingetsu et al. relied on by the Examiner to disclose an image processor that renders each of the electrical responses as an achromatic luminance value" and has the intended purpose of saving memory space by storing achromatic luminance data for

black and white images, Matsui et al. violates this intended purpose by working with images in which one specific color dominates, such as red or blue, thereby requiring much more storage space than black and white images. Column 3, lines 13-35. Because the Examiner is relying on Kingetsu et al. to disclose the claim 1 language of an image processor that "renders each of the electrical responses as an achromatic luminance value," the Examiner may combine the white color balance of Matsui et al. with Kingetsu et al. only in a manner that does not violate the intended purpose of an image processor that "renders each of the electrical responses as an achromatic luminance value". Because the Examiner's proposed combination of Matsui et al. and Kingestu et al. violates the intended purpose of Kingetsu et al., the Examiner did not make a *prima facie* case of obviousness against claim 1. MPEP Eight Edition, Revision 2, page 2100-131.

Second, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references relies on an improper motivation to combine the references. MPEP Eight Edition, Revision 2, page 2100-129.

The Examiner's alleged motivation to combine is on page 4 of the Office Action mailed 03 August 2004 - that it would have been obvious to one of ordinary skill in the art to "ensure that real life white objects appear white when photographed". This alleged motivation to combine also violates the intended purpose of Kingetsu et al. This alleged motivation to combine is provided as an object of invention by Matsui et al. at column 1, lines 31-33. However, Matsui et al. et al. explains that this alleged motivation to combine, that of ensuring that white objects appear white, is accomplished by controlling a gain of a red signal circuit and a gain of a blue signal circuit. Column 1, lines 33-36. Therefore, the alleged motivation to combine relies on a white balance control that works with images in which one specific color dominates, such as red or blue. Working with images in which one specific color dominates, such as red or blue, violates the intended purpose of Kingetsu et al. of storing achromatic luminance data for black and white images to save memory space. Accordingly, there is no motivation to combine the Kingetsu et al. and Matsui et al. references to disclose claim 1 as amended. Because the Examiner is relying on Kingetsu et al. to disclose the claim 1 language of an image processor that "renders each of the electrical responses as an achromatic luminance value," the Examiner must provide a motivation to combine

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the white color balance of Matsui et al. with an image processor of Kingetsu et al. that "renders each of the electrical responses as an achromatic luminance value". Because the Examiner has not provided sufficient motivation to combine the references, there is no *prima facie* case of obviousness against claim 1 as amended. MPEP Eight Edition, Revision 2, page 2100-128.

Third, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references is inconsistent with the principle of operation of the Examiner's Kingetsu et al. reference. MPEP Eight Edition, Revision 2, page 2100-132.

The principle of operation of the Kingetsu et al. is to determine whether to store an image as black and white only if the camera is in a document imaging mode. Column 5, lines 20-44. If the camera of Kingetsu et al. is in a mode to image an object besides a document, such as a landscape or a person, the camera automatically assumes that the image is stored as color, and does not determine whether to store an image as black and white. Column 5, lines 45-50 and column 1, lines 25-30. This principle of operation is especially significant, because the Examiner relies on this very same principle of operation to disclose the claim 1 language of an image processor that "determines whether the captured image is substantially achromatic, and if so, renders each of the electrical responses as an achromatic luminance value". The camera of Kingetsu et al. operates in two modes: a document mode for taking images of documents, and a non-document mode for taking images of anything else. The document mode is associated with multiple functions that are not associated with non-document mode, such as the function of determining whether to store an image as black and white. Column 4, lines 3-33. Only in document mode does the camera keep the resolution constant, to maximize legibility of letters. Column 4, line 54 to column 5, line 7. Also, only in document mode does the camera prevent mirror reflection in image sensing to prevent letters from becoming illegible due to mirror reflection. Column 5, lines 8-19. In non-document mode, Kingetsu et al. does not determine whether to store an image as black and white, because the camera of Kingestu et al. assumes that an image taken in non-document mode is a color image, and such a determination would be meaningless. Column 5, lines 45-50. Figure 16 and column 10, lines 54-58 of Kingetsu et al. describe an example of using the camera in document mode, where the camera is attached to a projector-like device to take images of documents. Such an

application illustrates the distinctive nature of document mode, versus regular outdoor or indoor use of a camera.

Matsui et al. violates this principle of operation of Kingetsu et al of determining whether to store an image as black and white only if the camera is a document imaging mode. Matsui et al. discloses a camera for regular indoor or outdoor use to take images of color objects, such as green grass and red walls, and not black and white documents. Column 6, line 63 to column 7, line 7 and column 20, lines 32-54. The camera of Matsui et al. has only indoor and outdoor modes which are both non-document modes, because neither the indoor mode nor the outdoor mode of Matsui performs any of the functions associated with a document mode in Kingetsu et al. (i.e., determining whether to store an image as black and white, keeping the resolution constant to maximize legibility of letters, and preventing mirror reflection to prevent letters from becoming illegible due to mirror reflection) Thus, in contrast with the document mode of Kingetsu et al. relied on by the Examiner to disclose an image processor that "determines whether the captured image is substantially achromatic, and if so, renders each of the electrical responses as an achromatic luminance value" and relies on the principle of operation of determining whether to store an image as black and white only if the camera is in a document mode, Matsui et al. violates this principle of operation by working permanently in a non-document mode. Because the Examiner's proposed combination of Matsui et al. and Kingestu et al. impermissibly changes the principle of operation of Kingestu et al., the Examiner did not make a *prima facie* case of obviousness against claim 1. MPEP Eight Edition, Revision 2, page 2100-132.

Claims 3 and 8 also depend from claim 1, and are not obvious for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 2, 3, and 8 is respectfully requested.

Claims 6, 19 and 20 are rejected under 35 USC 103(a) as being unpatentable over Kingetsu et al. (USP 6,181,379).

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Claim 6 depends from claim 1. Claim 1 as amended includes the following language not disclosed by Kingetsu et al.:

> *an image processor that white-balances the captured image and*
> *determines whether the captured image is substantially achromatic, and if so,*
> *renders each of the electrical responses as an achromatic luminance value ...*

Kingetsu et al. does not disclose "an image processor that white-balances the captured image". Further, the Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function, and did not make a *prima facie* case against the claim as amended. Thus, claim 6 is not anticipated by Kingetsu et al.

Claims 19 and 20 depend from claim 16. Claim 16 as amended includes the following language not disclosed by Kingetsu et al.:

> *white-balancing the plurality of chromatic intensity values;*

Kingetsu et al. does not disclose "white-balancing the plurality of chromatic intensity values". Further, the Examiner acknowledged on page 4 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function, and did not make a *prima facie* case against the claim as amended. Thus, claims 19 and 20 are not anticipated by Kingetsu et al.

Accordingly, withdrawal of the rejection of claims 6, 19, and 20 is respectfully requested.

Claim 9 is rejected under 35 USC 103(a) as being unpatentable over Kingetsu et al. in view of Roberts (USP 5,541,654).

Claim 9 depends from claim 1. Claim 1 as amended includes the following language not disclosed by Kingetsu et al. in view of Roberts:

> *an image processor that white-balances the captured image and*
> *determines whether the captured image is substantially achromatic, and if so,*
> *renders each of the electrical responses as an achromatic luminance value ...*

Kingetsu et al. does not disclose "an image processor that white-balances the captured image". Further, the Examiner acknowledged on page 4 of the Office Action

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mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance function, and did not make a *prima facie* case against the claim as amended. Thus, claim 9 is not anticipated by Kingetsu et al.

Accordingly, withdrawal of the rejection of claim 9 is respectfully requested.

Claims 10, 11, 13-15 and 22 are rejected under 35 USC 103(a) as being unpatentable over Kingetsu et al. in view of Nakayama et al. (US Pub. 2002/0027601 A1).

Claim 10 includes the following language not disclosed by Kingetsu et al. in view of Nakayama et al.:

> *a white balance circuit that modifies the chromatic intensity values to compensate for imperfect sources of illumination that lack an equal and continuous mixture of the visible frequencies of light;*

Kingetsu et al. does not disclose "a white balance circuit". Further, the Examiner acknowledged on page 8 of the Office Action mailed 03 August 2004 that Kingetsu et al. does not disclose a white balance circuit. The Examiner combined a white balancing circuit as disclosed by Nakayama et al. with Kingetsu et al. to make the rejection.

The Examiner cannot rely on impermissible hindsight afforded by the claimed invention to combine a first reference disclosing "a white balance circuit" with a second reference disclosing "an image conversion circuit that renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic". MPEP Eight Edition, Revision 2, page 2100-120.

The Examiner's combination of the references does not satisfy the requirements of a *prima facie* case, because the combination of the references would render the prior art unsatisfactory for its intended purpose, the motivation to combine the references is insufficient, and the combination of the references changes the principle of operation of a reference.

First, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references would render Kingetsu et al. unsatisfactory for its intended purpose. MPEP Eight Edition, Revision 2, page 2100-131.

The intended purpose of Kingetsu et al. is to save space in the finite image memory by storing only achromatic luminance data for black and white images. Column 12, lines 1-17 of Kingetsu et al. This intended purpose is especially significant, because it is discussed at precisely the portion of Kingestu et al. that is relied on by the Examiner to disclose the claim 10 language of an "achromatic image-detection circuit". Kingetsu et al. discloses that only brightness information is extracted from image data, if the image data is determined to be a black and white image. Column 12, lines 1-25 and column 11, lines 51-60. Kingetsu et al. explains that color images occupy much more image memory, because image data must be stored separately each color, red, green, and blue. Column 12, lines 16-25. By recording only brightness information for a black and white image, and omitting color data such as hue and chromaticity, this principle of operation of Kingetsu et al. serves the intended purpose of saving space in the finite image memory. Column 5, lines 40-44.

Nakayama et al. violates the intended purpose of Kingetsu et al. Nakayama et al. discloses a white balance control device for images that have red signals and blue signals that deviate from red reference signals and blue reference signals, causing the image to be too blue or too red. Paragraphs [0024]-[0025]. Thus, in contrast with Kingetsu et al. relied on by the Examiner to disclose an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value" and has the intended purpose of saving memory space by storing achromatic luminance data for black and white images, Nakayama et al. violates this intended purpose by working with images that have too much red or too much blue, thereby requiring much more storage space than black and white images. Paragraphs [0024]-[0025]. Because the Examiner is relying on Kingetsu et al. to disclose the claim 10 language of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value", the Examiner may combine the white balance control of Nakayama et al. with Kingetsu et al. only in a manner that does not violate the intended purpose of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value". Because the Examiner's proposed combination of Nakayama et al. and Kingestu et al. violates the intended purpose of Kingetsu et al., the Examiner did not make a *prima facie* case of obviousness against claim 10. MPEP Eight Edition, Revision 2, page 2100-131.

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Second, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references relies on an improper motivation to combine the references. MPEP Eight Edition, Revision 2, page 2100-129.

The Examiner's alleged motivation to combine is on page 4 of the Office Action mailed 03 August 2004 - that it would have been obvious to one of ordinary skill in the art to "ensure that real life white objects appear white when photographed". This alleged motivation to combine also violates the intended purpose of Kingetsu et al. This alleged motivation to combine is provided as an object of invention by Matsui et al. at column 1, lines 31-33. However, Matsui et al. et al. explains that this alleged motivation to combine, that of ensuring that white objects appear white, is accomplished by controlling a gain of a red signal circuit and a gain of a blue signal circuit. Column 1, lines 33-36. Therefore, the alleged motivation to combine relies on a white balance control that works with images in which one specific color dominates, such as red or blue. Working with images in which one specific color dominates, such as red or blue, violates the intended purpose of Kingetsu et al. of storing achromatic luminance data for black and white images to save memory space. Because the Examiner is relying on Kingetsu et al. to disclose the claim 10 language of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value", the Examiner must provide a motivation to combine the white color balance of Matsui et al. with an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value" of Kingetsu et al. Accordingly, there is no motivation to combine the Kingetsu et al. and Matsui et al. references to disclose claim 10. Because the Examiner has not provided sufficient motivation to combine the references, there is no *prima facie* case of obviousness against claim 10. MPEP Eight Edition, Revision 2, page 2100-128.

Third, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references is inconsistent with the principle of operation of the Examiner's Kingetsu et al. reference. MPEP Eight Edition, Revision 2, page 2100-132.

The principle of operation of the Kingetsu et al. is to determine whether to store an image as black and white only if the camera is in a document imaging mode. Column 5, lines 20-44. If the camera of Kingetsu et al. is in a mode to image an object besides a document, such as a landscape or a person, the camera automatically assumes that the image is stored as color, and does not determine whether to store an image as black and

white. Column 5, lines 45-50 and column 1, lines 25-30. This principle of operation is especially significant, because the Examiner relies on this very same principle of operation to disclose the claim 10 language of an "achromatic image-detection circuit". The camera of Kingetsu et al. operates in two modes: a document mode for taking images of documents, and a non-document mode for taking images of anything else. The document mode is associated with multiple functions that are not associated with non-document mode, such as the function of determining whether to store an image as black and white. Column 4, lines 3-33. Only in document mode does the camera keep the resolution constant, to maximize legibility of letters. Column 4, line 54 to column 5, line 7. Also, only in document mode does the camera prevent mirror reflection in image sensing to prevent letters from becoming illegible due to mirror reflection. Column 5, lines 8-19. In non-document mode, Kingetsu et al. does not determine whether to store an image as black and white, because the camera of Kingestu et al. assumes that an image taken in non-document mode is a color image, and such a determination would be meaningless. Column 5, lines 45-50. Figure 16 and column 10, lines 54-58 of Kingetsu et al. describe an example of using the camera in document mode, where the camera is attached to a projector-like device to take images of documents. Such an application illustrates the distinctive nature of document mode, versus regular outdoor or indoor use of a camera.

Nakayama et al. violates this principle of operation of Kingetsu et al of determining whether to store an image as black and white only if the camera is a document imaging mode. Nakayama et al. discloses a camera for recording, under various types of illumination, indoor or outdoor images. Paragraphs [0040] and [0044]. The camera of Nakayama et al. has only indoor and outdoor scene modes which are both non-document modes, because neither the indoor scene mode nor the outdoor scene mode of Nakayama performs any of the functions associated with a document mode in Kingetsu et al. (i.e., determining whether to store an image as black and white, keeping the resolution constant to maximize legibility of letters, and preventing mirror reflection to prevent letters from becoming illegible due to mirror reflection) Thus, in contrast with the document mode of Kingetsu et al. relied on by the Examiner to disclose "an achromatic image-detection circuit that detects whether the image is substantially achromatic" and relies on the principle of operation of determining whether to store an image as black and white only if the camera is in a document mode, Nakayama et al. violates this principle of operation by working

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permanently in a non-document mode. Because the Examiner's proposed combination of
Nakayama et al. and Kingestu et al. impermissibly changes the principle of operation of
Kingestu et al., the Examiner did not make a *prima facie* case of obviousness against claim
1. MPEP Eight Edition, Revision 2, page 2100-132.

Claims 11 and 13-15 also depend from claim 10, and are not obvious for at least
the same reasons.

Claim 22 includes the following language not disclosed by Kingetsu et al. in view
of Nakayama et al.:

> *means for compensating the image for sources of illumination that lack an*
> *equal and continuous mixture of visible frequencies of light;*

Because the combination of the references would render the prior art
unsatisfactory for its intended purpose, the motivation to combine the references is
insufficient, and the combination of the references changes the principle of operation of
a reference, there is no *prima facie* case of obviousness against claim 22.

Accordingly, withdrawal of the rejection of claims 10, 11, 13-15 and 22 is
respectfully requested.

Claims 10, 12-15 and 22 are rejected under 35 USC 103(a) as being
unpatentable over Kingetsu et al. (USP 6,181,379) in view of Lu et al. (USP 5,504,524).

Claim 10 includes the following language not disclosed by Kingetsu et al. in view
of Lu et al.:

> *a white balance circuit that modifies the chromatic intensity values to*
> *compensate for imperfect sources of illumination that lack an equal and*
> *continuous mixture of the visible frequencies of light;*

Kingetsu et al. does not disclose "a white balance circuit". Further, the Examiner
acknowledged on page 8 of the Office Action mailed 03 August 2004 that Kingetsu et
al. does not disclose a white balance circuit. The Examiner combined a color balancing
circuit as disclosed by Lu et al. with Kingetsu et al. to make the rejection.

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The Examiner cannot rely on impermissible hindsight afforded by the claimed invention to combine a first reference disclosing "a white balance circuit" with a second reference disclosing "an image conversion circuit that renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic". MPEP Eight Edition, Revision 2, page 2100-120.

The Examiner's combination of the references does not satisfy the requirements of a *prima facie* case, because the combination of the references would render the prior art unsatisfactory for its intended purpose, the motivation to combine the references is insufficient, and the combination of the references changes the principle of operation of a reference.

First, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references would render Kingetsu et al. unsatisfactory for its intended purpose. MPEP Eight Edition, Revision 2, page 2100-131.

The intended purpose of Kingetsu et al. is to save space in the finite image memory by storing only achromatic luminance data for black and white images. Column 12, lines 1-17 of Kingetsu et al. This intended purpose is especially significant, because it is discussed at precisely the portion of Kingestu et al. that is relied on by the Examiner to disclose the claim 10 language of an "achromatic image-detection circuit". Kingetsu et al. discloses that only brightness information is extracted from image data, if the image data is determined to be a black and white image. Column 12, lines 1-25 and column 11, lines 51-60. Kingetsu et al. explains that color images occupy much more image memory, because image data must be stored separately each color, red, green, and blue. Column 12, lines 16-25. By recording only brightness information for a black and white image, and omitting color data such as hue and chromaticity, this principle of operation of Kingetsu et al. serves the intended purpose of saving space in the finite image memory. Column 5, lines 40-44.

Lu et al. violates the intended purpose of Kingetsu et al. Lu et al. discloses a color balance control device for images that have a higher red level than a green level, or a higher blue level than a green level, causing the image to be too blue or too red. Column 1, lines 38-56. Thus, in contrast with the Kingetsu et al. reference relied on by the Examiner to disclose an "image conversion circuit that renders each chromatic

intensity value as an achromatic luminance value" and has the intended purpose of saving memory space by storing achromatic luminance data for black and white images, Lu et al. violates this intended purpose by working with images that have too much red or too much blue, thereby requiring much more storage space than black and white images. Column 1, lines 38-56. Because the Examiner is relying on Kingetsu et al. to disclose the claim 10 language of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value", the Examiner may combine the color balance control of Lu et al. with Kingetsu et al. only in a manner that does not violate the intended purpose of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value". Because the Examiner's proposed combination of Lu et al. and Kingestu et al. violates the intended purpose of Kingetsu et al., the Examiner did not make a *prima facie* case of obviousness against claim 10. MPEP Eight Edition, Revision 2, page 2100-131.

Second, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references relies on an improper motivation to combine the references. MPEP Eight Edition, Revision 2, page 2100-129.

The Examiner's alleged motivation to combine is on page 4 of the Office Action mailed 03 August 2004 - that it would have been obvious to one of ordinary skill in the art to "ensure that real life white objects appear white when photographed". This alleged motivation to combine also violates the intended purpose of Kingetsu et al. This alleged motivation to combine is provided as an object of invention by Matsui et al. at column 1, lines 31-33. However, Matsui et al. et al. explains that this alleged motivation to combine, that of ensuring that white objects appear white, is accomplished by controlling a gain of a red signal circuit and a gain of a blue signal circuit. Column 1, lines 33-36. Therefore, the alleged motivation to combine relies on a white balance control that works with images in which one specific color dominates, such as red or blue. Working with images in which one specific color dominates, such as red or blue, violates the intended purpose of Kingetsu et al. of storing achromatic luminance data for black and white images to save memory space. Because the Examiner is relying on Kingetsu et al. to disclose the claim 10 language of an "image conversion circuit that renders each chromatic intensity value as an achromatic luminance value", the Examiner must provide a motivation to combine the white color balance of Matsui et al. with an "image conversion circuit that renders each chromatic

intensity value as an achromatic luminance value" of Kingetsu et al. Accordingly, there is no motivation to combine the Kingetsu et al. and Matsui et al. references to disclose claim 10. Because the Examiner has not provided sufficient motivation to combine the references, there is no *prima facie* case of obviousness against claim 10. MPEP Eight Edition, Revision 2, page 2100-128.

Third, a *prima facie* case of obviousness does not exist, because the Examiner's proposed combination of references is inconsistent with the principle of operation of the Examiner's Kingetsu et al. reference. MPEP Eight Edition, Revision 2, page 2100-132.

The principle of operation of the Kingetsu et al. is to determine whether to store an image as black and white only if the camera is in a document imaging mode. Column 5, lines 20-44. If the camera of Kingetsu et al. is in a mode to image an object besides a document, such as a landscape or a person, the camera automatically assumes that the image is stored as color, and does not determine whether to store an image as black and white. Column 5, lines 45-50 and column 1, lines 25-30. This principle of operation is especially significant, because the Examiner relies on this very same principle of operation to disclose the claim 10 language of an "achromatic image-detection circuit". The camera of Kingetsu et al. operates in two modes: a document mode for taking images of documents, and a non-document mode for taking images of anything else. The document mode is associated with multiple functions that are not associated with non-document mode, such as the function of determining whether to store an image as black and white. Column 4, lines 3-33. Only in document mode does the camera keep the resolution constant, to maximize legibility of letters. Column 4, line 54 to column 5, line 7. Also, only in document mode does the camera prevent mirror reflection in image sensing to prevent letters from becoming illegible due to mirror reflection. Column 5, lines 8-19. In non-document mode, Kingetsu et al. does not determine whether to store an image as black and white, because the camera of Kingestu et al. assumes that an image taken in non-document mode is a color image, and such a determination would be meaningless. Column 5, lines 45-50. Figure 16 and column 10, lines 54-58 of Kingetsu et al. describe an example of using the camera in document mode, where the camera is attached to a projector-like device to take images of documents. Such an application illustrates the distinctive nature of document mode, versus regular outdoor or indoor use of a camera.

Lu et al. violates this principle of operation of Kingetsu et al of determining whether

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to store an image as black and white only if the camera is a document imaging mode. Lu et al. discloses a video camera for recording color images. Abstract. The camera of Lu et al. has only a non-document mode, because Lu et al. performs none of the functions associated with a document mode in Kingetsu et al. (i.e., determining whether to store an image as black and white, keeping the resolution constant to maximize legibility of letters, and preventing mirror reflection to prevent letters from becoming illegible due to mirror reflection) Thus, in contrast with the document mode of Kingetsu et al. reference relied on by the Examiner to disclose "an achromatic image-detection circuit that detects whether the image is substantially achromatic" and relies on the principle of operation of determining whether to store an image as black and white only if the camera is in a document mode, Lu et al. violates this principle of operation by working permanently in a non-document mode. Because the Examiner's proposed combination of Lu et al. and Kingestu et al. impermissibly changes the principle of operation of Kingestu et al., the Examiner did not make a *prima facie* case of obviousness against claim 1. MPEP Eight Edition, Revision 2, page 2100-132.

Claims 12-15 depend from claim 10, and are not obvious for at least the same reasons.

Claim 22 includes the following language not disclosed by Kingetsu et al. in view of Lu et al.:

> *means for compensating the image for sources of illumination that lack an*
> *equal and continuous mixture of visible frequencies of light;*

Because the combination of the references would render the prior art unsatisfactory for its intended purpose, the motivation to combine the references is insufficient, and the combination of the references changes the principle of operation of a reference, there is no *prima facie* case of obviousness against claim 22.

Accordingly, withdrawal of the rejection of claims 10, 12-15 and 22 is respectfully requested.

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<u>CONCLUSION</u>

Applicant respectfully submits that the pending claims are now in condition for allowance and thereby solicits acceptance of the claims, in light of these amendments.

The undersigned can ordinarily be reached at his office at (650) 712-0340 from 8:30 to 5:30 PST, M-F and can be reached at his cell phone (415) 902-6112 most other times.

Respectfully submitted,
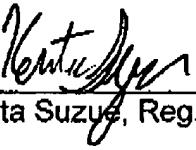
Dated: 3 February 2005

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